

Serial No:10/775,381
Docket No: Dawson-001

AMENDMENT IN THE CLAIMS

Claims 1-5: (canceled)

Claim 6 (Withdrawn): The flat plate heat exchanger coil of claim 1, wherein said at least one flow diverter is of a solid bar and is bent to create the heat exchange medium flow path.

Claim 7 (Withdrawn): The flat plate heat exchanger coil of claim 1, wherein said at least one flow diverter is of a hollow section material and is bent to create the heat exchange medium flow path.

Claim 8 (currently amended):

~~The flat plate heat exchanger coil of claim 1 flat heat exchanger plate of claim 45,~~ wherein said at least one pressure resistor member and said at least one pressure restraint member is strategically positioned within the interior space to aid in the placement and retention of said at least one flow diverter.

Claim 9 (canceled):

Claim 10 (currently amended):

~~The flat plate heat exchanger coil of claim 1 flat heat exchanger plate of claim 45,~~ wherein said heat exchange medium exit nozzle is attached to a vacuum source and said heat exchange medium inlet nozzle is attached to a source of heat exchange medium.

11 (Withdrawn): The flat plate heat exchanger coil of claim 1, wherein said at least one flow diverter comprises a plurality of tapered flow diverter strips interlocked with and orthogonal to a plurality of flow control strips, the flow control strips having a plurality of reduced sections formed therealong so as to be spaced between adjacent tapered flow diverter strips.

Serial No:10/775,381
Docket No: Dawson-001

Claim 12 (Withdrawn): The flat plate heat exchanger coil of claim 1, wherein said at least one flow diverter is strip of material formed in a serpentine shape and includes a heat exchange medium flow control leg.

Claim 13 (Withdrawn): The flat plate heat exchanger coil of claim 1, wherein said at least one flow diverter is a strip of material having opposed edges bent orthogonal to the side sheets and a diagonal web extending between the opposed bent edges thereof.

Claim 14 (Withdrawn): The flat plate heat exchanger coil of claim 1, wherein said at least one flow diverter is a corrugated formed sheet of material.

Claim 15 (currently amended);

~~The flat plate heat exchanger coil of claim 1~~ flat heat exchanger plate of claim 45, further comprising:

at least one support lug extending from one edge of said body.

Claim 16 (currently amended):

~~The flat plate heat exchanger coil of claim 1~~ flat heat exchanger plate of claim 45, further comprising:

at least one indentation formed into one edge of said body.

Claim 17 (currently amended):

~~The flat plate heat exchanger coil of claim 1~~ flat heat exchanger plate of claim 45, further comprising:

at least one lifting lug extending from the top of said body.

Claim 18 (currently amended):

~~The flat plate heat exchanger coil of claim 1~~ flat heat exchanger plate of claim 45, further comprising:

at least one location lug extending from one edge of said body.

Serial No:10/775,381
Docket No: Dawson-001

Claim 19 (currently amended):

~~The flat plate heat exchanger coil of claim 1~~ flat heat exchanger plate of claim 45,
wherein said body includes at least one support hole formed through the side sheets
thereof.

Claim 20 (currently amended):

~~The flat plate heat exchanger coil of claim 1~~ flat heat exchanger plate of claim 45,
wherein said body has a thickness that decreases from one transverse edge to the second
transverse edge.

Claim 21 (currently amended):

~~The flat plate heat exchanger coil~~ flat heat exchanger plate of claim 20, wherein the
thickness of said body decreases from one transverse edge to the second transverse edge
in a series of steps.

Claim 22 (Withdrawn): The flat plate heat exchanger coil of claim 21, wherein the
series of steps are created by overlapping sections of sheet material to form the two
opposing sides thereof.

Claim 23 (Withdrawn): The flat plate heat exchanger coil of claim 21, wherein the
series of steps are created by forming inward facing bends at spaced locations along each
side sheet.

Claim 24 (currently amended):

~~The flat plate heat exchanger coil of claim 1~~ flat heat exchanger plate of claim 45,
wherein said body has a width that increases from one transverse edge to the second
transverse edge.

Claim 25 (currently amended):

A bulk material heat exchanger comprising:

Serial No:10/775,381
Docket No: Dawson-001

a plurality of flat plate heat exchanger coils flat heat exchanger plates arranged side-by-side in a spaced relationship, each of said flat plate heat exchanger coil flat heat exchanger plates having a body with two opposing side sheets that are substantially smooth, two opposing longitudinal edges and two opposing transverse edges where the two side sheets are sealed to each other along the borders of the two transverse edges and the two longitudinal edges, defining an open interior space, a heat exchange medium inlet nozzle in fluid communication with the interior space, a heat exchange medium exit nozzle in fluid communication with the open interior space, at least one pressure resistor member positioned within the open interior space with one end thereof attached to the interior surface of one side sheet, and at least one flow diverter positioned within the open interior space to create a heat exchange medium flow path, wherein said at least one flow diverter is a strip of material having at least one bend and includes at least one hole formed therethrough along the center line thereof, and said at least one pressure resistor member is received by at least one hole to position and retain said flow diverter within the interior space;

a heat exchange medium supply manifold attached to each heat exchange medium inlet nozzle of each flat plate heat exchanger coil, said heat exchange medium supply manifold attached to a heat exchange medium supply system; and

a heat exchange medium return manifold attached to each heat exchange medium exit nozzle of each flat plate heat exchanger coil, said heat exchange medium return manifold attached to a vacuum source so as to draw a quantity of heat exchange medium from the supply thereof through each flat plate heat exchanger coil and return the heat exchange medium back to the heat exchange medium supply system.

Claim 26 (currently amended):

The bulk material heat exchanger of claim 25, further comprising: wherein each of said flat heat exchanger plates further includes at least one support lug extending from one edge of said body.

Claim 27 (currently amended):

Serial No:10/775,381
Docket No: Dawson-001

The bulk material heat exchanger of claim 25, further comprising: wherein each of said flat heat exchanger plates further includes at least one indentation formed into one edge of said body.

Claim 28 (currently amended):

The bulk material heat exchanger of claim 25, further comprising: wherein each of said flat heat exchanger plates further includes at least one lifting lug extending from the top of said body.

Claim 29 (currently amended):

The bulk material heat exchanger of claim 25, wherein said body wherein each of said flat heat exchanger plates further includes at least one support hole formed through the side sheets thereof.

Claim 30 (currently amended):

The bulk material heat exchanger of claim 25, where each of said bodies the said body has a thickness that decreases from one transverse edge to the second transverse edge.

Claim 31 (Withdrawn): The bulk material heat exchanger of claim 25, wherein the thickness of the body decreases from one transverse edge to the second transverse edge in a series of steps.

Claim 32 (Withdrawn): The bulk material heat exchanger of claim 25, wherein the series of steps are created by overlapping sections of sheet material to form the two opposing sides thereof.

33 (Withdrawn): The bulk material heat exchanger of claim 25, wherein the series of steps are created by forming inward facing bends at spaced locations along each side sheet.

Claim 34 (currently amended):

Serial No:10/775,381
Docket No: Dawson-001

The bulk material heat exchanger of claim 25, wherein each of said bodies said body has a width that increases from one transverse edge to the second transverse edge.

Claim 35 (currently amended):

The bulk material heat exchanger of claim 25, further comprising:

at least one removable seal positioned between the sides sheets of two adjacent flat plate coils flat heat exchanger plates.

Claim 36 (currently amended):

The bulk material heat exchanger of claim 25, wherein the flat plate coil each of the flat heat exchanger plates includes at least one at least one pressure resistor member positioned within the open interior space with one end thereof attached to the interior surface of one side sheet.

Claim 37 (currently amended):

The bulk material heat exchanger of claim 25, wherein the flat plate coil each of the flat heat exchanger plates includes at least one pressure restraint member positioned within the open interior space.

Claim 38 (currently amended):

The bulk material heat exchanger of claim 25, further comprising a lift means for lifting each plate-coil flat heat exchanger plate to aid in the removal of bulk material that has accumulated on the exterior surfaces of the plate-coils flat heat exchanger plates.

Claims 39-44 (canceled):

Claim 45 (new):

A flat heat exchanger plate comprising:

a body having two opposing side sheets that are substantially smooth, two opposing longitudinal edges and two opposing transverse edges where the two side sheets

Serial No:10/775,381
Docket No: Dawson-001

are sealed to each other along the borders of the two transverse edges and the two longitudinal edges, defining an open interior space;

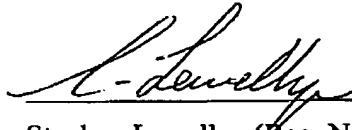
a heat exchange medium inlet nozzle in fluid communication with the open interior space;

a heat exchange medium exit nozzle in fluid communication with the open interior space

at least one pressure resistor member positioned within the open interior space with one end thereof attached to the interior surface of one side sheet; and

at least one flow diverter positioned within the open interior space to create a heat exchange medium flow path, wherein said at least one flow diverter is a strip of material having at least one bend and includes at least one hole formed therethrough along the center line thereof, and said at least one pressure resistor member is received by at least one hole to position and retain said flow diverter within the interior space.

Respectfully submitted:



Stephen Lewellyn (Reg. No. 51,942)

Date: 9-28-05